

pixel, the moving image vertical direction selecting circuit 52 selects an address in the row direction and the moving image horizontal direction selecting circuit 44 selects an address of the moving image in 5 the selected row. As a result, the AND gate circuit 47 of the selected display pixel is turned on and the connected TFT switch 48 is turned on. By A/D converting the moving image data, the moving image 10 signal output circuit 43 generates a signal voltage to be inputted to each of the selected display pixels and applies the signal voltage to the signal line 45. The signal voltage is inputted to the TN liquid crystal capacitor 49 via the TFT switch 48. Since the signal writing method of the still image is similar to that 15 of the moving image, its description is omitted here.

Timings of writing the moving and still images to the display pixel array 18 will be described with reference to Fig. 3. Fig. 3 illustrates how to write the moving and still images to the display pixel array 20 18. The display pixels are shown in circles in the display pixel area 53. For simplicity, the display pixel array has 8 rows  $\times$  12 columns. Among the display pixels, those with reference characters (a) to (d) are display pixels of the moving image and the other are 25 display pixels of the still images. When it is assumed

that a leak of current from the TN liquid crystal capacitor 49 is sufficiently small and flicker is not conspicuous if a refresh writing operation is performed (m) times per second and that (n) moving images are inputted per second. When the display pixels of the still image display area has (j) rows and the display pixels of the moving display area has (k) rows, the ratio of the writing rows of the still image to the moving image per unit time is  $(m \times j) : (n \times k)$ . For example, when (m) is 10, (n) is 60, (j) is 8, and (k) is 4, the ratio is 1 : 3. It is understood that the writing operation in the ratio of three writing rows of the moving image to one writing row of the still image is sufficient.

With respect to other examples of numerical values, it is assumed that the display pixel array 18 displaying the still image has 5000 rows of pixels and a moving picture displayed 30 frames per second on the display pixel array 18 has 500 scan lines. In this case as well, it is assumed that the leak current from the TN liquid crystal capacitor 49 is sufficiently suppressed and the flicker is not conspicuous in a still image if the refresh writing operation is executed once per second, the ratio of the writing rows per unit time of the still image to the moving

image can be set to 1 : 3 by the above-mentioned equation. As compared with a case where 30 frames of a moving image each having 500 scan lines are displayed per second, the speed of writing data to the display 5 pixel array is increased only by 33%  $((1 + 3)/3 = 1.33)$ . However, a display at a present time point of a general VGA specification is performed with about 480 rows and 60 frames/second. Consequently, the writing 10 speed of 500 rows and 30 frames/second in the embodiment which is 33% higher has an advantage that the writing speed can be reduced to about 70% of that of a general display at present  $(1.33 \times (500/480) \times (30/60) = 0.69)$ .

When the refresh writing frame rate of the still 15 image is decreased as mentioned above, a flicker occurs in an image. When the writing to the display pixel is not performed by a sequential scan but the image is divided into (g) fields and a writing scan is intermittently performed every (g) rows, the flicker 20 is suppressed more and the writing operation at a lower frame rate can be performed.

Although the microwave is used to transfer data from the parent device 31 to the child device 1 in the foregoing embodiment, it is obviously understood that 25 other data transfer means such as infrared light, wire,